

## **Chapter 1. Introduction**

Market squid (*Loligo opalescens*) is the state's largest fishery by volume. In addition to supporting an important commercial fishery, the market squid resource is important to the recreational fishery and is forage for fishes, marine mammals, birds, and other marine life. The growing international market for squid and declining squid production from other parts of the world has resulted in an increased demand for California market squid. The recent expansion in the fishery combined with record harvests of market squid may result in overfishing, damaging the resource, and financially harming those persons engaged in the taking, landing, processing, and sale of market squid. To prevent excessive fishing effort in the market squid fishery and to develop a plan for the sustainable harvest of market squid, it is necessary to adopt and implement a fishery management plan for the California market squid fishery that sustains both the squid population and the marine life that depends on squid. The market squid fishery will be managed by the Fish and Game Commission (Commission).

### **1.1 Purpose and Need for Action**

Commercial landings of market squid in California more than quadrupled from 1980 to 1997. Concern over the rapid increase in squid harvest and new vessels entering the fishery led to industry sponsored legislation in 1997 asking for management improvements in and placing a moratorium on the number of vessels in the fishery (SB364). In addition, this legislation required the Department of Fish and Game (Department) to submit a report on the status of the market squid fishery with recommendations for a market squid conservation and management plan. In March 2001, the Department submitted the report which was developed through the cooperative efforts of scientists, fishing industry representatives and other stakeholders. Late in 2001, the Legislature transferred management authority for the squid fishery to the Commission, including adoption of a market squid fisheries management plan (MSFMP) no later than 31 December 2002.

#### **1.1.1 Location and General Characteristics of the Project Area**

The harvest of market squid is proposed statewide, in all areas defined as ocean waters (§27.00 Title 14 CCR), except where prohibited or restricted, as specified, in state refuges or reserves, and as regulated by provision of this MSFMP.

The shoreline of California is one of the longest in the nation. There are approximately 1,072 miles of wave-washed shoreline along the mainland coast,

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and 300 miles around the offshore islands. The mainland shore consists of about 354 miles of rocky headlands and cliffs; 602 miles of sandy beaches; and 110 miles of rocky beach. Major embayments are: Humboldt (17,000 surface acres, or 6,880 hectares); Tomales (7,760 surface acres, or 3,140 hectares); San Francisco (320,000 surface acres, or 129,504 hectares); Morro (2,101 surface acres, or 8,540 hectares) and San Diego (11,500 surface acres, or 4,654 hectares).

The marine environment is composed of numerous microhabitats, each of which supports a distinct assemblage of species uniquely adapted to their environment. Generally, market squid are harvested nearshore in sandy habitats. An in-depth description of the habitat preferences and life history characteristics of market squid is found in chapters 2 and 3 of this document.

### **1.1.1 Problem Statement**

Market squid population dynamics are poorly understood. No biomass estimates are available. There are large gaps in our knowledge of the life history of this invertebrate. However, we do know that squid are a vital forage resource in our marine ecosystem, consumed by seabirds, marine mammals and many fishes. In 1998, the Department developed and implemented a large-scale monitoring and biological research program on the market squid fishery and resource that has and will continue to provide critical information that is necessary to develop sound long-term management strategies. Because the lifespan of squid is less than one year and availability is inconsistent, fishery assessment methods used to determine biomass cannot be applied using traditional approaches. During the initial three years of study, contracted independent researchers (in conjunction with Department employees and data collection efforts) explored several science-based methods for developing management strategies for the fishery. Initial results show there is promise in exploring the use of a real-time egg escapement model and developing a depletion-oriented population model for long-term management of the market squid fishery.

### **1.2 The Marine Life Management Act**

The Marine Life Management Act (MLMA) was signed into law and incorporated into the Fish and Game Code (FGC) (§7050-7090) 01 January 1999. The MLMA created state policies, goals, and objectives to govern the conservation, sustainable use and restoration of California's marine living resources. The MLMA opened a new chapter in the conservation of California's marine wildlife and the management of our marine fisheries (Weber and Heneman 2000). The MLMA gives the Fish and Game Commission and the Department specific guidance for managing marine resources through a comprehensive set of goals and objectives outlined in section 1.2.1. The MSFMP is being developed under this direction to better facilitate conservation and stewardship of this important resource.

### **1.2.1 Goals and Objectives Defined Under Marine Life Management Act**

Goal: To ensure the conservation, sustainable use, and, where feasible, restoration of California's marine living resources for the benefit of all the citizens of the state.

Objectives:

- Conserve the health and diversity of marine ecosystems and marine living resources;
- Allow and encourage only those activities and uses that are sustainable;
- Recognize the importance of activities and uses that do not involve take;
- Recognize the importance to the economy and culture of California of sustainable sport and commercial fisheries and the development of commercial aquaculture;
- Support and promote scientific research on marine ecosystems;
- Manage on the basis of the best available scientific and other relevant information;
- Involve all interested parties;
- Promote the dissemination of accurate information through the management process;
- Coordinate and cooperate with adjacent states, as well as with Mexico and Canada, and encourage regional approaches to management.

Goal: To achieve the management goal of sustainability, every fishery shall be managed under a system whose objectives include:

Objectives:

- Long-term health of the resource is not sacrificed in favor of short-term benefits. A fishery managed based on maximum sustainable yield shall have optimum yield as its objective.
- Health of a habitat is maintained, and to the extent feasible, the habitat is restored and, where appropriate, enhanced.
- Depressed fisheries are rebuilt to highest sustainable yields consistent with environmental and habitat conditions.
- Bycatch is limited to acceptable types and amounts.
- Fishery participants are allowed to propose methods to prevent or reduce excess effort in marine fisheries.
- Management is closely coordinated when a species is the target of both sport and commercial fisheries or of a fishery that employs different gears.
- Fishery management is adaptive and based on best available scientific or other relevant information.
- The management decision-making process is open and seeks advice and assistance of interested parties.
- Adverse impacts of fishery management on small-scale fisheries, coastal communities, and local economies are minimized.

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- Collaborative and cooperative approaches to management are encouraged and mechanisms are in place to resolve disputes such as access, allocation, and gear conflicts.
- Management is proactive and responds to changing environmental conditions and market or other socioeconomic factors and concerns of fishery participants.
- The management system is periodically reviewed for effectiveness.

**1.2.2 Process of Plan Review**

The MLMA requires public and peer review for all fishery management plans (FMPs, FGC §7075-7078). For public review, the Department solicits input and/or assistance from the various user groups who may be affected by the FMP or other interested parties prior to development of an FMP. The Department can also approach the National Marine Fisheries Service, Sea Grant, the Pacific Fishery Management Council or advisory committees established by the Department for advice. Once the FMP or amendment has been developed, the plan must be submitted to the Commission for a 30-day public comment period prior to any public hearings. Additionally, the Commission must hold at least two public hearings on the FMP. Any comments or proposals made to the Commission relative to the FMP may be considered by the Commission and forwarded to the Department for inclusion into the FMP.

For external peer review, the Department is required to set up a formalized procedure for examining the science that is used as the basis for any management recommendation. The peer review panel must be given all pertinent comments received by the Department from fishery participants or other interested parties. Any suggestions made through external peer review may be used in whole or part; however, if the Department disagrees with the findings and chooses not to use the recommendations, an explanation of why the peer review recommendations were not used must accompany the FMP or amendment.

More information on the review processes for FMPs can be found in *The Master Plan: A Guide for the Development of Fishery Management Plans* (California Department of Fish and Game 2001).

**1.2.3 Process for Plan Amendment**

The MLMA also requires a plan amendment process for all FMPs (§7087 FGC). The amendment process must identify the types of regulations that the Department may adopt without amending the plan. In addition, any amendment to an FMP must undergo the review process, as outlined above in section 1.2.2. More information on the FMP amendment process can be found in *The Master Plan: A Guide for the Development of Fishery Management Plans* (California Department of Fish and Game 2001).

### **1.3 Specific Goals and Objectives of the Market Squid Fishery Management Plan**

#### Goals:

- To manage the market squid resource for the optimum long-term benefits of present and future generations.
- To develop a framework for management that will be responsive to environmental and socioeconomic changes.

#### Objectives (not listed in order of priority):

- Provide for the sustainable use of the market squid resource and provide for stock growth for commercial and recreational fisheries;
- Use adaptive management to provide for necessary changes and modifications of management measures in a timely and efficient manner;
- Maintain an adequate forage reserve for marine mammals, fish and seabirds;
- Insure proper utilization and the avoidance of bycatch and wastage of market squid and other species;
- Support and promote increased understanding of market squid natural history, population dynamics, and its ecosystem's role to improve management;
- Ensure effective monitoring of the market squid population and its fisheries;
- Ensure effective enforcement of regulations and improved compliance;
- Identify, protect, and restore critical market squid habitat;
- Minimize the adverse impacts of management on small-scale fisheries, coastal communities, and local economies.

#### **1.3.1 Constituent Involvement**

The MLMA requires, and the Department is committed to, a collaborative approach to resource management. One of the overriding objectives of MLMA is constituent involvement. The Department believes that broad participation in the development of an FMP will improve the effectiveness of management and the ability to implement the plan. Constituent involvement also ensures that decision makers are better informed when making management decisions by:

- Exploring issues, concerns, and management measures from various perspectives;
- Providing increased understanding of a resource and its fishery from participants' and nonparticipants' perspectives through consensus building; and
- Sharing responsibility of sustainable fisheries management with all interested constituents.

In addition to the requirements of the MLMA, the California Environmental Quality Act (CEQA) requires public consultation on all environmental projects. The

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Department accomplishes this through a 30-day public comment period, scoping sessions within the communities involved, and at least two Commission meetings.

**1.3.1.1 Public Consultation for Definition of Plan Goals and Objectives**

In 1998, two advisory committees were formed by the Department's Director to examine the market squid fishery: the Squid Fishery Advisory Committee (SFAC) and the Squid Research and Scientific Committee (SRSC). The SFAC comprised fishery participants, environmentalists, and scientists and advised the Department on proposed management strategies and changes to the fishery. The SRSC comprised national and international university, agency, and private industry scientists and made recommendations on squid research protocols and methods as well as management strategies. These two committees met from 1998 through 2000 and both played a major role in the interim management of the fishery.

**1.3.1.2 Public Consultation for Selection of Preferred Management Alternative**

In December 2001, the Department prepared and filed a Notice of Preparation (NOP) with the State Clearinghouse for distribution to appropriate responsible and trustee agencies for their input and comments. Further, the notice was provided to individuals and organizations that had expressed prior interest in regulatory actions regarding market squid. Comments received in response to the NOP are addressed in Appendix F.

The Department also conducted two public meetings to present options for management of the market squid fishery. The first meeting was held on 26 January 2001 in Port Hueneme and the second was in Monterey on 27 January 2001. The proposed project for management of the market squid fishery was developed through these venues.

**1.4 Authority and Responsibility**

As per the California Constitution, the State Legislature, through statute, may provide for the seasons and the conditions under which different species of fish may be taken. California law consists of 29 codes including the FGC. Laws in the FGC consist of statutes and propositions passed by the voters of the state. Statutes, such as MLMA, are chaptered bills that have passed through both houses of the Legislature and ultimately signed by the Governor and recorded by the Secretary of State. The FGC is administered and enforced through regulations. The rulemaking powers of the Commission, a body created by the Constitution and appointed by the Governor are delegated to it by the Legislature.

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The Department is the state agency charged with carrying out policies adopted by the State Legislature and the Commission. The Department enforces statutes and regulations governing recreational and commercial fishing activities, conducts biological research, monitors fisheries, and collects fishery statistics necessary to protect, conserve, and manage the living marine resources of California.

Other state agencies have functions and responsibilities that directly or indirectly affect the management of ocean and coastal resources. In addition, marine resources are also managed by federal laws governing the take of seabirds, marine mammals, fish, and shellfish (Weber and Heneman 2000).

**1.4.1 California Environmental Quality Act (CEQA)**

The Legislature passed the California Environmental Quality Act (CEQA) in 1972 with the intent of providing the people of the state with a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man (Section 21000(b) Public Resources Code). Section 21001 further finds that the prevention of the elimination of fish or wildlife species due to man's activities ensures that fish and wildlife populations do not drop below self-perpetuating levels, and preserves representations of all plant and animal communities for future generations, as is state policy. "It is... the policy of the state to encourage the conservation, maintenance, and utilization of the living resources of the ocean and other waters under the jurisdiction and influence of the state for the benefit of all the citizens of the state and to promote the development of local fisheries and distant-water fisheries based in California in harmony with international law respecting fishing and the conservation of the living resources of the oceans and other waters under the jurisdiction and influence of the state" (FGC § 1700). As a public agency, the Department must comply with CEQA when it undertakes an activity defined by CEQA as a "project." This definition includes activities undertaken by public agencies or private activities which must receive some discretionary approval (meaning the agency has the authority to deny the requested permit or approval) from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment (such as the issuance, to a person, of a lease, permit, license, certificate, or other entitlement for use).

The Legislature's policy is that projects carried out by public agencies are subject to the same level of review and consideration as private projects that require the approval of public agencies. The basic purpose of CEQA is to inform governmental decision-makers and the public about the potential, significant environmental effects of a proposed project, to identify the ways that environmental damage can be avoided or significantly reduced, and to prevent significant, avoidable damage to the environment. These safeguards are enacted by requiring changes in projects with alternatives or mitigation measures when the governmental agency finds the changes to be feasible.

A state agency may accomplish this task through the development of an Environmental Impact Report (EIR), Negative Declaration (ND), or a Functional Equivalent. If no potential significant effects are identified, a ND is prepared. A mitigated ND is prepared if there are potential effects that can be mitigated to a level of insignificance. An EIR is required if the project may have a significant effect on the environment. Section 15382 of the CEQA guidelines defines "significant effect on the environment" as: "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." In addition, CEQA requires that a determination of significance be "based to the extent possible on scientific and factual data."

CEQA encourages a scoping process to help identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an environmental document, and to help resolve the concerns of affected agencies and individuals. Further, CEQA requires that the Commission consider and evaluate the potential effects of any project on the environment. This environmental document has been prepared to comply with CEQA.

#### **1.4.1.1 Functional Equivalent**

The CEQA requires all public agencies in the State to evaluate the environmental impacts of projects that they approve or carry out. If there are potentially significant environmental impacts, most agencies satisfy this requirement by preparing an Environmental Impact Report (EIR). If no potentially significant impacts exist, a Negative Declaration (ND) is prepared. However, an alternative to the EIR/ND requirement exists for State agencies with activities that include protection of the environment as part of their regulatory program. Under this alternative, an agency may request certification of its regulatory program from the Secretary for Resources. With certification, an agency may prepare functional equivalent environmental documents in lieu of EIRs or NDs. The regulatory program of the Fish and Game Commission has been certified by the Secretary for Resources. Therefore, the Commission is eligible to submit an environmental document in lieu of an EIR (§15252 CEQA Guidelines).

#### **1.4.1.2 Use of the Environmental Document**

The California Environmental Quality Act requires all public agencies in the State to evaluate the environmental effects of a project that they approve or carry out, and that may have the potential to significantly affect the environment. Most agencies satisfy this requirement by preparing an EIR or ND. However, an alternative to an EIR or a ND is the preparation of a Functional Equivalent document that has been created for State agencies whose activities include the protection of the environment within their regulatory programs. Under this



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alternative, an agency may request certification of its regulatory program from the Secretary for Resources. With certification, an agency may prepare a Functional Equivalent environmental document in lieu of an EIR or ND. The regulatory program of the Fish and Game Commission has been certified by the Secretary for Resources; thus, the Commission is eligible to submit this environmental document in lieu of an EIR. Section 21080.4 of CEQA describes the qualifications for certification to prepare an equivalent document. However, the exemption for the certified state regulatory program is not a blanket exemption from CEQA as the agency must still comply with CEQAs policies, evaluation criteria and standards.

**1.4.1.3 Use of the Environmental Document**

This environmental document contains a description of the proposed action (project), potential effects of the proposed action, reasonable alternatives to the proposed action, cumulative effects, and a discussion of mitigation of significant environmental effects related to the action and its alternatives. This environmental document presents information to allow a comparison of the potential effects of the various alternatives to the adoption of the Market Squid Management Plan as described in the Marine Life Management Act. Although a given alternative may not achieve the project objectives, it is considered to provide the Commission and the public additional information related to the options available.

**1.4.2 Federal Law**

The Federal government manages the marine resources and fishing activities of the United States (US) through the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The purpose of the MSFCMA is to provide conservation and management of US fishery resources, develop domestic fisheries, and phase out foreign fishing activity within the Exclusive Economic Zone (EEZ) consisting of ocean waters from the edge of State waters three mi (5 km) to 200 mi (322 km) offshore.

Eight Regional Fishery Management Councils implement the goals of the MSFCMA in coordination with the National Marine Fisheries Service. The Pacific Fisheries Management Council (hereinafter referred to as the Council) manages several fishery resources off Washington, Oregon, and California by developing fishery management plans for the EEZ. The State of California has representation on the Council. Five coastal pelagic species (CPS) fall under the authority of the federal Coastal Pelagic Species Fishery Management Plan (CPS FMP); two species are actively managed: Pacific sardine and Pacific mackerel; three species are monitored only: northern anchovy, jack mackerel and market squid. The CPS FMP delegated management authority for market squid to the State.

**1.5 Current Management of Market Squid**

Management of the market squid fishery has been divided between the Legislature and the Commission. The market squid fishery was largely an unregulated fishery until the passage of Senate Bill 364 (Sher) in 1997. Since that time, both the Legislature and the Commission have adopted statutes and regulations specific to the management of various components of this fishery (Appendix B).

### **1.5.1 Legislative Responsibilities**

Statutes passed by the State Legislature regulating commercial fishing are contained in the FGC of California. Some provisions of law apply specifically to market squid, while others apply generally to the take of all fish such as some area closures and gear restrictions. Statutes pertaining specifically to the commercial take of market squid are listed in Appendix B.

The MLMA identifies a number of policies, goals, objectives, requirements, and processes for managing California's marine resources. These resources are to be managed to assure long-term economic, recreational, ecological, cultural, and social benefits.

The MLMA requires that fishery management plans (FMPs) form the primary basis for managing the State's marine fisheries. An FMP is a planning document that contains comprehensive review of the fishery along with clear objectives and measures to insure sustainability of that fishery. An FMP is based on the best available scientific or other relevant information.

### **1.5.2 Fish and Game Commission Responsibilities**

The authority and responsibility of the Commission and the Department to make and enforce regulations governing recreational and commercial fishing are provided by the Legislature. General policies for the conduct of the Department are formulated by the Commission (FGC §704). General policy for conservation of aquatic resources is provided by FGC §1700, and specific policy for the management of marine resources (MLMA) is provided in FGC §7500- §7090.

#### **1.5.2.1 Commercial Fisheries**

Commercial fishing regulations are created by the Legislature and the Commission. Provisions relating to the taking and possession of fish for commercial purposes is provided in FGC §7600-9101 and CCR, Title 14, Chapter 6. With the passage of the SB 209 (2001), authority to regulate the market squid fishery was delegated to the Commission.

#### **1.5.2.2 Rulemaking Process under the Administrative Procedures Act**

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The California Constitution and Legislative statutes create state agencies and commissions, and can grant them certain powers including the ability to make rules and regulations in order to carry out their duties. The California Administrative Procedures Act (§11340-11359) of the Government Code provides guidance on the rulemaking process.

The Commission's rulemaking process is provided in FGC §200-221. Basic minimum procedural requirements for the adoption, amendment or repeal of regulations are provided in the California Government Code §11346. Emergency rulemaking considerations are provided in California Government Code §11346.1 and in FGC §240.